

**TOP FY 2000  
Project Narrative**

**University of Alaska-Fairbanks**

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## **Project Definition**

***Northern Journeys-II:*** the University of Alaska Museum (UAM), the North Star Borough School District [Denali Elementary School (DES) and the North Star Borough Noel Wien Library (NWL)] propose to integrate the interpretative themes of the Museum's art collection into the K-6 grade classroom curricula and the homeschool community.

Through *Northern Journeys* (Journeys) and the Internet, the Museum will introduce the significance of artistic achievements, present new perspectives on art, and promote art literacy from both Western and Alaska Native perspectives. The primary benefit of the technology and interpretative plan will be the layering of information and integration of multiple academic perspectives, including history, science, culture, and art.

The need for Alaskan examples. DES teachers have expressed concern for the lack of Alaskan examples when teaching the humanities. Most examples in textbooks are from the lower-48 states. If Alaskan, the topics are so generalized, students have difficulty connecting to them. *Journeys* will use museum objects to connect students to their community elders, to the land, to plants and animals, and to the contemporary social, political and economic environments. These connections will help students develop a sense of local responsibility and an ownership as involved members in their community. *Journeys* follows *Alaska Standards for Culturally Responsive Schools* (Assembly of Native Educator Associations, 1998).

Because DES students come from culturally diverse backgrounds and are often separated from family in the villages or from the lower-48 states, *Journeys* emphasizes an appreciation for individual experiences and backgrounds while highlighting the similarities, not the differences between cultures. This initiative provides an opportunity to formulate an educational reform regarding the structure, content, and process for delivering humanities into the schools. This means reform by shifting cultural orientation from just teaching about the local culture to teaching in the culture using appropriate museum objects and technology (Alaska Native Knowledge Network, 1999).

## **Objectives and Outcomes: Northern Journeys**

1. Students will have a greater understanding of the state's cultural arts resources and the role that art can play in developing a community's 'Sense of Place' in Alaska.
2. Students will better understand science and the humanities through community examples.
3. *Journeys* will contribute to an educational reform where students learn within the culture using appropriate museum objects and technology.
4. Homeschool and rural students will show improved understanding of the sciences and humanities through access to an accredited curriculum and advanced

technology (meeting Alaska Educational Standards) despite geographic and/or financial barriers.

5. Underserved Alaska Native communities, both urban and rural, will have direct access via a proven technology to their cultural patrimony housed at the UAM.

### **Northern Journeys-I (No TOP funds requested)**

The *Journeys-I* UAM-DES partnership was awarded a planning grant from the National Endowment for the Humanities (NEH) under its Schools for a New Millennium program. As a result, the UAM-DES team is currently completing a prototype curriculum for 8 - 10 year old students using a model that integrates Alaskan art objects from the Museum's collection into classroom lesson plans. For example, the painting, *Mt. McKinley*, by Sydney Laurence would include pertinent information about the artist, why art historians revere his paintings, and how his romanticized painting style helped to shape our wonder of this mountain. Additional interpretive levels of *Mt. McKinley* could include the following themes:

- 1) how the Alaska Range was formed by plate tectonics, volcanoes, earthquakes, and glaciers;
- 2) a current political discussion of the place name of Mt. McKinley vs. Denali, the cultural icon used by Interior Athabascans for this mountain;
- 3) a description of the alpine tundra flora and fauna;
- 4) oral history interviews, including segments from Athabascan elders, cartographers, and mountain climbers.

### **Northern Journeys-II (TOP funds requested)**

Students will access art objects and interactive themes such as *Mt. McKinley* through an array of Internet servers at UAM, DES, and NWL. While there is currently a T-1 connection between the University of Alaska Fairbanks (UAF) and the Fairbanks School District Administration Center, both UAM and DES are lacking the technology needed to enable quick, whole-class participation. Fast graphics-streaming servers and desktop computers, high-lumen projectors and video-capturing technology will enable teachers and students to explore the UAM site and other museums on-line. Students will investigate other art for themselves, communicate with artists, elders and curators, and discuss their perspectives with students in other schools. The Alaska Native Education Center, located at the Fairbanks School District will also be *Journeys* equipped, and the partnership will send Traveling Telecommunications Kits (mailable computers) to remote sites about the state for the purposes of involving communities (schools, museums, artists) with *Journeys* and evaluating the applicability of the program to their needs.

It is important that we fold the Fairbanks homeschool population into the curriculum as this segment of the school age population is too often neglected in light of the perceived greater need

of the public schools. Homeschool students will access *Journeys* and participate in the discourse through three Public Access Sites:

The Museum's education classroom and the exhibition galleries where wireless laptop computers can be employed alongside the artwork.

The Noel Wien Library, where wireless laptop computers can be checked out by student patrons from the homeschool program and adjacent Denali Elementary School.

The School District's planned Homeschool Support Program currently under design.

### **Northern Journeys-III (Future Funding)**

Phase III will extend *Journeys* to other schools in the Fairbanks School District and to other statewide school districts by establishing sustainable links and partnerships with these communities. With the UAM-DES-NWL technology infrastructure erected and Northern *Journeys* available over the Internet, we see other communities sharing their art objects and linking with our UAM on-line collections. As a start, The Museum's Education and Exhibits departments have been asked by Senator Ted Stevens to work closely with the Barrow Cultural Heritage Center in order to plan and develop a community based exhibit and education program. No doubt, part of this infant partnership will be the networking of the *Journeys* curriculum. In addition, UAM is planning its own year 2004 expansion with the addition of a new art gallery.

### **(B) Innovation**

Partnership. UAM-DES-NWL has examined programs across the country where new technology is changing the way in which teachers, students, curators, and artists can connect across the Internet. The objectives of *Journeys* set it apart from previously TOP funded programs, including the Illinois State Museum Society's *Museums in the Classroom* program, the Denver public library, and the California Science Center's *Video Periscope*. What *Journeys* initiates, and we believe for the first time, is an interdisciplinary discussion of museum objects and a folding of the interpretation into classroom lesson plans. This is an educational reform model whereby having a diverse academia, curators, scientists, humanists, artists, and elders interpret objects thereby teaching within a culture, not about a culture. Unlike virtual University programs such as issued by the University of Alaska Southeast, *Journeys* does not distribute classes. *Journeys* creates an exploratory framework for instruction and research for teachers and students. The UAM-DES-NWL collaboration is capable of revising the school curriculum and reforming museum interpretation at the same time.

There are many Interior Alaska communities where a growing number of students reach adulthood without seeing themselves as members of a contemporary culture and social environment. *Journeys* provides the explorer with layered possibilities for understanding the

past, present and future social landscape. The explorers will develop a sense of their place in the community and be charged with the responsibility of being a part of that community.

Technology. As with any Internet based museum-school program, fast computers will carry complex object-based images and community discourse between UAM and the students at DES and NWL and into the homes of the homeschooled students. However, *Journeys* emphasizes several approaches that are unique to this museum-school partnership; *Journeys*:

Recognizes the time-constraints of classroom Internet access and employs an array of three server engines to significantly increase the time needed to access large files.

Projects images to the front of the classroom instead of isolating students behind monitors.

Employs at the museum a wireless system of lightweight and durable, laptop computers to enhance the exploratory power of students / visitors beyond the written labels.

Delivers traveling telecommunications links (laptop / camera systems) to remote sites in order to enhance community perspectives and evaluate project viability from other "interview sites", i.e., artists studios, rural cultural center, museum exhibitions, etc..

Makes use of a multi-layered on-line collections with interpretative material that compliment teacher lesson plans.

### **Diffusion Potential**

Potential for project replication. We see future partner schools and museums connecting to *Journeys* once they can observe its effect on DES and the local homeschool community. Starting with the Barrow Cultural Heritage Center and the North Slope School District, the partnership will actively solicit involvement of other, rural and urban museums and schools. These potential partners may actively participate in *Journeys*, or they may begin independent partnerships wishing to develop their own curricula based on their museum art objects.

Improvements upon existing educational approaches. *Northern Journeys* exhibits several-fold improvements, including:

Bridging the divide separating core curricula and supplemental material.

Moving away from teaching on a culture to teaching in a culture by using museum objects.

Incorporating interdisciplinary interpretation, including relevant tribal elders,

humanists, scientists, historians, poets, and visual artists of the community.

Results dissemination. Reports of project results will be distributed over the Internet and sent to museums and schools across the state. In the same manner that the Museum's art objects will be discussed from multiple perspectives, a project journal will be compiled from the viewpoints of all principle partners as *Journeys* moves from phase to phase. Such a journal will present director, teacher, and student perceptions and illustrate the benefits and the pitfalls of moving multiple-perspective art interpretation beyond the gallery.

The Museum's year 2000 special exhibit is *Looking North*, a prototype exhibit allowing the Museum curators to evaluate new interpretative themes in preparation for UAM's year 2004 art gallery expansion.. The *Journeys-I* curriculum units employ artwork from this exhibit, the connection to which will have the advantage of increased publicity as we get ready to plan the museums expansion galleries. We expect articles in our local newspaper, the Fairbanks Daily News Miner, and on television and public radio. As a part of the special exhibit there will be a series of public lectures and symposia on the subject of multiple-interpreted museum objects all of which will benefit the publicity for *Northern Journeys-II*.

Curator, a well-respected museum periodical, has requested an article detailing *Journeys- I*.

Three members of the project advisory board will attend 4 conferences over the course of the project to report findings as panel members.

In 2002, UAM will host the annual Museums Alaska Conference to highlight *Journeys*.

#### **(D) Project Feasibility**

Technical approach. (See Network Diagram in Appendix III, p.5) The UAM-DES partnership has consulted with representatives from Silicon Graphics, Apple Education, Applied Microsystems, the University of Alaska, and the Fairbanks School District in order to determine the feasibility and sustainability of Journey's technology and its compatibility with the University and School District networks. The weak link in the local network will be the relatively low bandwidth of the T-1 line connecting the University and the Fairbanks School District. Solution: an array of three servers at UAM, DES, and NWL will reduce difficulties with heavy Internet traffic along the T-1 line. The servers at DES and NWL will download from the master server at UAM in order to: 1) reduce graphical-traffic load during peak hours; and 2) operate alone in the circumstances of a broken line.

DES installed wiring in 1997 to provide a minimum of 2 Ethernet connections to each classroom (capacity of 8 / class). This provides ample in-house bandwidth for the two-way transmission of curriculum materials whether in the form of photographs, three-dimensional scanned objects, animated GIF's, MPEG movies, or sound clips.

An Apple OS-X server is capable of simultaneously connecting over one thousand Internet and local users (given appropriate bandwidth). These new servers are designed to store and transmit/receive large quantities of graphical data.

The data turned objects will be brought to the fore of the DES classrooms by 3M's 1,100 lumen, high-resolution XGA projectors. The planning staff has considered the use of flat screen technology. However, after consulting with DES teachers and our technology advisors, we decided that the benefits of the flat screen (very high resolution and lighting-independent use) are outweighed by the drawbacks (immovability and high cost). Newly redesigned 3M Projectors, on the other hand, offer good resolution, portability, and storability at a fraction of the cost, the upshot being that we can make more classrooms *Journeys* ready.

NWL is two blocks from DES and across the street from Ryan Middle School and Lathrop High School, where DES graduates go for their secondary education. Teachers and school district administrators indicated that because DES, Ryan, and Lathrop are located near NWL, if a wireless network and portable computers were at NWL, this equipment would be used by students. Homeschool students and community-at-large users would also have access to the *Journeys* programs. A wireless network would also be installed at the Museum where students could use portable computers to move about the galleries completing assignments.

The Apple iBook, lightweight, durable, and appears to be manufactured with *Journeys* in mind. Consultants suggest that Apple's wireless Airport base stations present the best of Lucent Technologies wireless innovation at a far more affordable price. The Apple wireless system and the OS-X servers, with bundled software, have the power to support the user-base we expect over the next three years, and then are fully scalable in the future. The Fairbanks School District's intention to upgrade the T-1 line to microwave transmission or fiber-optic lines in the future will only enhance this scalability. UAF and UAM have worked closely with Apple in the past. The technology proposed for the K-6 program is already used in smart classrooms at the University.

Applicant qualifications. The University of Alaska Museum is dedicated to the preservation and interpretation of the cultural and natural history heritage of Alaska, the Circumpolar North, and northern Pacific Rim. UAM is the only accredited museum serving as a repository for scientific collections in the State of Alaska.

The Museum has extensive experience collaborating with small museums statewide in the areas of interpretation, exhibit design, and museum-school partnerships. The Museum is also a leader in the planning and development of collaborative projects with Alaska Native communities as well as with many federal and state agencies, private businesses, and non-profit organizations. Many of these projects were funded and supported by the Alaska Humanities Forum, the National Endowment for the Humanities, and the National Endowment for the Arts.

The Fairbanks North Star Borough School District is located in interior Alaska and covers 7,361 square miles, an area approximate to that of Connecticut. It operates 32 schools for an enrollment of 16,154 students in grades K-12.

The School District received a \$300,000 21st Century Community Learning Centers grant for its three middle schools. Our approach at the middle schools is to partner with community agencies for allowable services chosen by the schools themselves. Successful partnership programs within the community have resulted in a supportive family/community involvement environment. Evidence of this are the numerous partnership activities taking place, the creation and funding of a Family/Community Involvement Program, and well-focused plans for future growth in community involvement.

The Noel Wien Public Library is the only public library outside the University that operates within the Fairbanks North Star Borough.

Budget implementation schedule. As discussed in Project Definition (pg. 1) and *Northern Journeys* Timeline (Appendix II, pp. 2-4)

### **Northern Journeys-III: over the long-term.**

The Museum's square footage will be doubled with the addition of the Rose Berry Alaska Art gallery in 2004. In partnership with this expansion, many community partners have already come together to influence the interpretation of the future gallery's exhibits. It is their clientele that will benefit from this expansion, the first permanent art gallery in interior Alaska. We see these same community organizations: the Noel Wien Library, Fairbanks Family Literacy, Doyan Foundation (Tanana Chiefs Conference), and Denakkanaaga, Inc. investing an interest in *Northern Journeys*. We expect that once we have evaluated *Journeys* in the classroom and observed its results, these organizations will implement the program for their client needs.

### **(E) Community Involvement**

**The Partnership and Community.** (See attached letters: Appendix IV, pp. 6-8)

UAM will supply the digitized objects that make up the *Journeys* model and maintain the Web materials. The server at UAM will be the primary server for the *Journeys* network. The Museum will maintain a wireless network in the galleries and extend the virtual object collection based on curator, artist, staff, and visitor perspectives and demands.

DES will employ *Journeys* in the classroom, utilizing a server on site, classroom computers, and projectors to access objects, perspectives, and speakers.

FSD will seek avenues for the expansion of *Journeys* to other schools in the district, and improve the connectivity between schools and the University and the Internet at-large. FSD will integrate *Journeys* with the planned future Homeschool Support Program.

NWL will operate the server and wireless network within the library, aiding students who use the curriculum, object materials, or the Internet at-large.



Apple Education will sell the partnership the server, wireless and laptop technology, and service agreement; and consult alongside SGI on maintenance and future scalability.

Community organizations will be involved gradually during the latter parts of *Journeys-II* and *III* as the project resources are tailored to their clienteles (See Feasibility above).

The Barrow Cultural Heritage Center is expected to be the first remote museum to link with *Journeys* and participate in object sharing for the benefit of schools and communities at large.

End-user support. The average elementary school student today has been exposed to a relatively high level of technology, whether it has been in the form of television imagery, cellular phones, or computers. Of these students there is much demand that their educational experiences surpass this rudimentary level. Those that do not have the experience need enhanced contact with the technology. *Journeys-II* considers three points of contact for the elementary school student: the classroom where they will begin their journey, the museum where they will come face to face with the objects of this exploration, and the library to continue this exploration outside of school and the home. The library is also the key point of contact for the homeschooled student, which makes this element of the partnership particularly attractive to student and curriculum support.

Students will be inspired by their parents' and teachers' enthusiasm for and comfort with the project content and technology. The DES teachers first implementing *Journeys* will be central to the training of additional teachers at DES and other schools. Training seminars will be held at regular intervals in order to solicit participation and offer instruction to the parents of classroom or homeschooled students. The privacy of end-users employing public access sites is ensured by the anonymity of these sites. See Section G. Evaluation for statistics collection and maintenance.

## **(F) Reducing Disparities**

**Targeting underserved communities.** The user base for any program using the Internet as a deployment, evaluation, and response-soliciting tool can extend worldwide. However, our resources to support user services are limited. *Journeys-II* targets DES and local homeschool students while folding in remote artists, museums and schools on an evaluative basis. We target these populations first because of DES's greater need when compared to other schools in the district. *Journeys-III* will broaden user support after *Journeys-II* has been evaluated.

**The DES student.** The oldest operating school in the Fairbanks school district, DES opened its doors in 1951. DES provides kindergarten through sixth grade instruction to a population of 450 students representing all major ethnic groupings. The ethnic background of the student population is approximately 63.9% Caucasian, 20.3% Native American, 9.5% African American, 5.1% Hispanic, and 1.3% Asian. The students have a diverse social-economic background, from very low income (37% qualify for free or reduced meals by federal guidelines) to upper middle income, and the mobility rate of the student body is 25-30% annually. DES has a higher

percentage of Native Alaskan students that the School District as a whole: 18.5% compared to 11.4%, and a higher percentage of black students: 9.5% compared to 8.0%. DES has the eighth highest percent of low-income student families in the district out of 32 schools.

**The homeschool student.** The homeschool population of the Fairbanks North Star Borough is estimated at 2% of the total school age population. With a total school age population of 15,804 kids, there are potentially 316 homeschooled children in the Borough, and at least 170 or so in the K-6 grade range for which *Journeys* is being proposed (Lines, 1996). While Alaska boasts the highest level of Internet connectivity in the nation (62.4%: NTIA 1999 report, Falling Through the Net), this connectivity is centered on the business and scientific needs of the state. As the NTIA report illustrates, Alaska's connectivity is high in general, but low-income families, Native Americans, youth families, and those living in rural areas exhibit the lowest access rates (NTIA, 1999 report, How Access benefits Children). We understand from the local homeschool association that home school students rely heavily on public access sites, such as NWL, for their Internet connectivity.

The Native Alaskan student. Minority use of the limited facilities at NWL corroborates the findings of Falling through the Net; minority users obtain most of their Internet access through such public sites. At the same time, *Journeys* makes a priority the outfitting the School District's Alaska Native Education Room with the same equipment as the DES classrooms. The Alaska Room serves 1,500 children annually with one full-time and three part-time staff members.

Remote students, communities, museums, and artists. Geography is Alaska's greatest obstacle for community learning. It is often cost prohibitive to wire phones, much less fiber optics for fast Internet use. Equally important is people's impetus for living in rural Alaska. These people have a very strong sense of their locale and very strong feelings about becoming just another urban American. However, this does not mean that they want to be isolated. People in Nome and Kotzebue listen to Fairbanks' public radio for their news. They are avid readers of newspapers. It is often the traffic of ideas out of the rural villages and the schools that is stalled or inhibited. The *Northern Journeys* Traveling Telecom. Kits will enable live and asynchronous linking with rural villages bringing these peoples' perspectives to bear on the art that we attribute to them. These computers will be outfitted with live modem connections and with CD-ROM drives for users who do not have line access.

### **(G) Evaluation and Documentation**

Because *Northern Journeys-II* follows the first phase and dovetails with UAM's year 2000 exhibit *Looking North*, the evaluation component will build on results and experience gained from two prior evaluations.

The two principal evaluative measurements will be: 1) the levels of engagement and the comparative performance of students who undertake *Journeys*, compared to those who do not; 2) the adaptability of the *Journeys* model to other museums and schools, in Fairbanks and across the state. Front-end and formative evaluation will build on information from *Northern Journeys-I* and UAM's exhibit *Looking North*. Additional input will be gathered using focus group

interviews with DES teachers and students during the implementation of *Journeys* into DES classrooms. Because DES classes will receive equipment and be exposed to *Journeys* a few at a time, *Journeys* is afforded the opportunity to evaluate and fine tune itself for the next stage in growth. This iterative process results in an effective finished product. Summative evaluation will take place at the end of the three-year grant implementation period. Both the formative and summative evaluations will employ methods to increase the validity of the results.

Data will be collected to measure the quantity of activity, and include: uses of database images, use of defined journeys, uses originating from participating classrooms and NWL, items and costs of items added to the database on request, students using the curriculum, visitors using the Museum system, attendance at training sessions, readers of journals publishing information on the project, promotional pieces distributed to institutions and general public. Some data gathered will be used for categorical or multivariate statistical analysis in order to ascertain correlations between users and *Journeys*.

Qualitative measurements will take into account: comparison of the performance of students who use curriculum to those who do not, students' increased comfort with and awareness of technology and community resources, number and substance of curriculum revisions, issues and actions related to collaborative aspects of the project, the number and substance of presentations and discussions with other collaborative partners, and the review of online user feedback and comments. Appropriate methods of data collection and analysis (quantitative and qualitative) will be employed to measure different aspects of the results.

The evaluation results will be made a part of the project journal, presented by a panel at the attended conferences, and submitted to appropriate journals and NTIA.